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Vibrational spectra and conformational isomerism of 2-phenoxy-5,6-benz-1,3,2-dioxaphosphepins

Shagidullin R., Shakirov I., Arshinova R., Kadyrov R.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

Using vibrational spectroscopy methods in different aggregate states and solutions with variation of the polarity of the medium, we have studied 2-phenoxy-5,6-benz-1-3,2-dioxaphosphepin and its oxo, thio, and seleno analogs. In the liquid and solutions, they exist as a conformational equilibrium of three forms: two chair forms, differing in the orientation of the phenoxyl radical, and a twist form. The population of the twist form is no more than 25%. The content of the chair conformers is determined by the solvent. In the crystal, all the compounds have the chair form with axial phenoxyl group. © 1989 Plenum Publishing Corporation.

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